

ECLIPSE PLUMAGE IN DOMESTIC FOWL

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From the time of Darwin, ornithologists almost unanimously have agreed that the Red Jungle Fowl (*Gallus gallus*) of India, the Malay Peninsula, Indo-China and the neighboring islands, is the sole ancestor of domestic fowls. Practical poultrymen, on the other hand, are equally sure that certain breeds, especially of the groups known as Asiatics and Oriental games, must have come from some unknown, gigantic ancestor. There are some, also, who feel that the case of the Red Jungle Fowl's ancestral relation to breeds other than these Eastern types, is not fully established. While it is not the purpose of the present paper to enter fully into this discussion, it is felt that the facts herein presented have a strong bearing in this seemingly interminable controversy.

On October 22, 1916, the New York Zoological Park received, through the medium of Ansel W. Robinson, of San Francisco, a pair of Red Jungle Fowl. They were young birds but the male was in full color, with flowing hackle and saddle feathers. The pair had been obtained in the Philippine Islands, where the species is believed to have been introduced by man. Both specimens were typical, which is more than can be said for most of the Red Jungle Fowl seen in captivity. They were very wild when first received but gradually became tamer, though they never would allow themselves to be handled or even touched.

The birds were kept in warm quarters during the winter months, and by spring were in very good feather and condition. In June, the cock began to shed his long neck hackles and dropped the sickle feathers of the tail at the same time.

Close watch was kept on the bird during this period and it was found that he was going through the oft-mentioned but seldom described eclipse which is typical of the species. As the red, black-centered, pointed hackle feathers dropped out, they were replaced by short, round-tipped black ones. Those in the upper portions of the neck were broadly margined with orange, but as they approached the neck, they became wholly black.

Late in July, the cock caught a sudden cold, and died on August 2, 1917. The eclipse was not quite complete, the small

feathers on the head, just behind the comb, not having been molted. It is quite possible that this is as far as the normal eclipse goes. The new tail sickles had not yet begun to grow. This individual seems to correspond in general with Ogilvie-Grant's* designation of June-September as the eclipse period.

This eclipse plumage of the male Red Jungle Fowl, while not generally well known, has always proved a stumbling block to those who maintain that the species is the sole ancestor of our domestic fowl. It has been difficult to explain the absence of the eclipse in domestic birds, since it is so characteristic of their wild progenitors.

There seems to be no record of eclipse plumage in domestic cocks, though in the light of the present evidence, this seems due rather to oversight than to lack of occurrence.

In the autumn of 1919, Mr. Prescott Van Wyck, of Summit, New Jersey, brought to the Zoological Park, a Black-breasted Red Pit Game cock, for the writer's inspection. The bird was a yearling, in his first adult molt. Examination showed that the sickle feathers of the tail had been cast and that the neck was in eclipse plumage, exactly as in the Red Jungle Fowl. This is all the more interesting, as, in color, the Black-breasted Red game fowl is an almost perfect counterpart of the Red Jungle Fowl. The eclipse feathers of the game cock were orange, with broad black margins, exactly the opposite of the colors in the Jungle Fowl eclipse. To complete the comparison, the short, red, pointed feathers of the head, as in the Jungle Fowl, had not been replaced.

Unfortunately, this cock was not the property of Mr. Van Wyck, and could not be left for observation. However, a photograph was made, showing the hackle in eclipse. In the foreground of the photograph, which is presented herewith, a single unmolted hackle feather may be seen.

A few months later, the change to full plumage had been accomplished, and specimens of the normal hackle feathers were obtained, which may be compared with those of the eclipse.

It seems reasonable to suppose that this example of the eclipse plumage in domestic fowls, is not unique but that its occurrence has been overlooked. Careful examination of molting cocks, particularly game fowl, no doubt would reveal total or partial eclipse plumage as at least fairly common.

*Ogilvie-Grant, W. R. *A Hand-book of the Game Birds*, 1897, Vol. II, pp. 48-9.